J.P.Morgan CAZENOVE

Europe Equity Research
14 January 2015

Nokia

With major catalyst in the year, stock is top pick for 2015

Overweight

NOK1V.HE, NOK1V FH

Price: €6.46

▲ **Price Target: €9.00**
Previous: €8.00

European Technology

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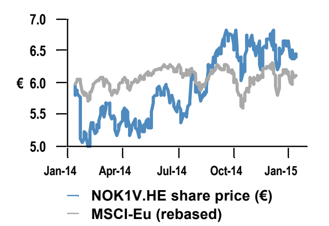
Despite Nokia beating expectations in the last two quarters, we believe market expectations in networks remain beatable in 4Q14 with consensus EBIT growth of 2.6% QoQ vs. sales growth expected of 11.7%. With the Samsung arbitration decision in '15 still the main catalyst for the stock in '15 but with euro weakness benefiting the company, coupled with low US exposure (where biggest '15 absolute capex decline will occur), Nokia stock in our view remains well positioned. We raise our Dec-15 price target to €9.0 from €8.0 to reflect an 11% network margin over six quarters and our view that the market will take a more positive view on HERE.

- **4Q14 EBIT consensus beatable:** Our 4Q sales estimate of €3.7bn (+11% QoQ; +6.5% YoY) is in line with SME Direkt consensus. We are ~6% lower than consensus on 4Q14 EBIT, mainly due to lower EBIT and margin in networks. Our 4Q networks margin estimate is 11.6% vs. consensus of 12.4% while our 2014 networks margin estimate is 11.5% vs. consensus of 11.7% and company guidance of "slightly over 11%". Thus networks margin expectations are already slightly higher than guidance. That said, consensus has networks EBIT of €407m up 2.6% QoQ when revenue is expected to be up 11.7% QoQ. Thus consensus margin is substantially declining QoQ. Though margin may decline in 4Q, we believe it will not decline as much as the market currently forecasts, meaning that Nokia maintains ability to beat 4Q14 expectations. Our estimates for HERE and Technology division are only modestly different from consensus.

- **Changing from fixed payment or no payment deals to volume-based deals should provide most upside to Technology EBIT:** As previously highlighted, the upside to the revenue & earnings in this business comes from re-negotiation of cross-licenses to become direct licenses. In particular if we examine Nokia revenue in Technology from 2012, we notice that adjusted for the Microsoft deal it has not grown at all. This is because Nokia had fixed-price deals with some leading handset vendors & in fact cross-licensing resulted in very low total royalty payments from others. Thus upside from re-negotiation in our view comes more from converting the contracts to account for ongoing handset sales as well as due to higher royalties as cross-licensing becomes direct licenses. Based on data from other deals we believe a 1% royalty is possible in direct licenses especially as Nokia has strong essential protocol & implementation patents.

Price Performance



	YTD	1m	3m	12m
Abs	-2.9%	1.2%	0.9%	8.3%
Rel	-2.1%	-1.6%	-4.4%	5.7%

Next Catalysts on stock

1. 4Q14 results on 29 Jan 2015
2. Mobile World Congress announcements Mar 1-5 2015.
3. Samsung arbitration decision in 2H15

Nokia (NOK1V.HE;NOK1V FH)

FYE Dec	2011A	2012A	2013A	2014E	2015E	2016E
Adj.EPS FY (€)	0.19	0.16	0.20	0.27	0.27	0.30
Revenue FY (€ mn)	38,661	15,401	12,710	12,633	13,080	13,421
Adjusted EBIT FY (€ mn)	1,325	1,112	1,437	1,578	1,481	1,645
Adj.EBIT Margin FY	3.4%	7.2%	11.3%	12.5%	11.3%	12.3%
EV/Revenue FY	0.5	1.2	1.5	1.5	1.5	1.4
EV/EBITDA (x) FY	7.3	11.5	10.7	10.7	11.4	10.4
Adj.P/E FY	33.9	41.1	32.6	23.7	24.2	21.2
Bloomberg EPS FY (€)	0.25	-0.19	0.06	0.27	0.31	0.34

Source: Company data, Bloomberg, J.P. Morgan estimates.

Company Data	
Price (€)	6.46
Date Of Price	13 Jan 15
Price Target (€)	9.00
Price Target End Date	31-Dec-15
52-week Range (€)	6.98-4.67
Market Cap (€ bn)	24.17
Shares O/S (mn)	3,745

See page 21 for analyst certification and important disclosures, including non-US analyst disclosures.

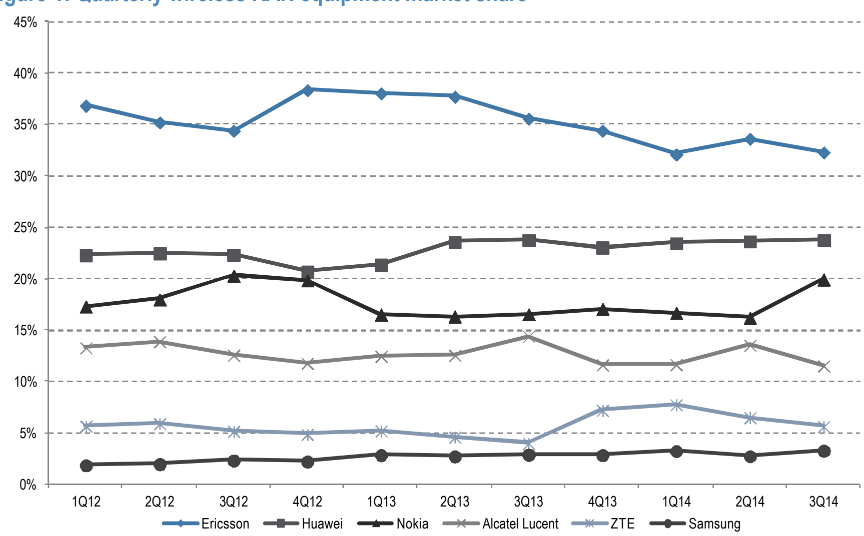
Networks

We expect Nokia to aim to grow the networks business in line with the market while maintaining or improving its profitability. The company will likely take advantage of consolidation opportunities when they present themselves if the deal meets affordability and profitability criteria. We do not expect the company to sacrifice profitability just to achieve consolidation.

Nokia's aims in the wireless network market where it is #3 were enumerated at its 2014 CMD. The business is shifting from restructuring to growth and margin protection. Management cited key goals as:

1. Focusing on key markets to win in while leveraging targeted acquisitions such as those with Motorola and Panasonic
2. Protecting the substantial improvement in gross margin
3. Management of opex
4. Protecting operating profit
5. Differentiating through quality and operating model

Figure 1: Quarterly wireless RAN equipment market share



Source: Dell'Oro; J.P. Morgan

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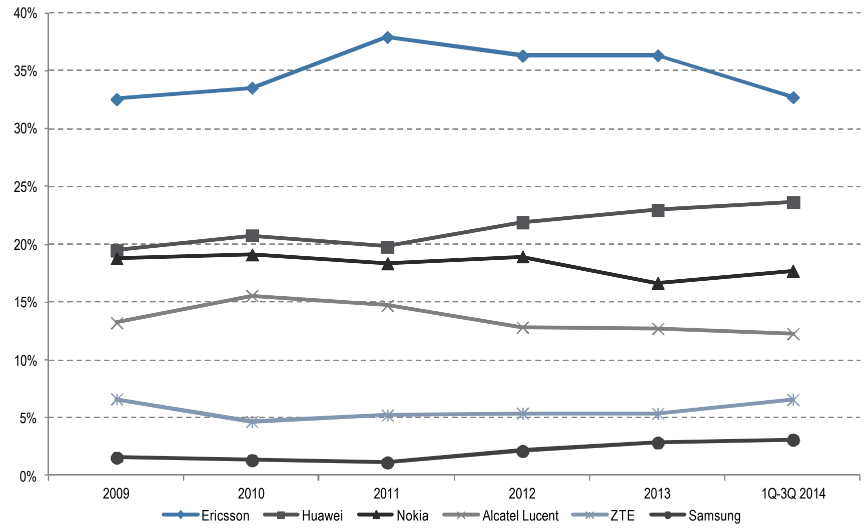
Figure 2: Annual wireless RAN equipment market share



Source: Dell'Oro; J.P. Morgan

Nokia is #3 in the wireless equipment market and its market share has ranged from 17-20% over past six years. In 3Q14, its market share rose significantly due to its higher share in China projects vs. European competitors and due to share gain in Sprint. This higher share is likely to persist through 2014, although to significantly change share from the current level, we believe Nokia will need to take share at AT&T and Verizon – the top US operators – where its exposure is low. As per Nokia networks' stated plans we do not see the company pricing aggressively to gain share at those customers and we expect it will be a long-term project. The aim of Nokia networks over the next few years will be growth to the extent the market grows while maintaining margin leadership.

Advanced Technology

Nokia is developing three businesses in Technology: patent licensing, technology licensing and brand licensing. At this time the latter two businesses are start-ups and we only value the patent licensing part of the business. As we have long highlighted, we believe the upside to the revenue and earnings in this business comes from re-negotiations of cross-licenses to become direct licenses. In particular if we examine Nokia revenue in Technology from 2012, we notice, that adjusted for the Microsoft deal it has not grown at all. This is because Nokia had fixed-price deals with some leading handset vendors and in fact cross-licensing resulted in very low total royalty payments from others. Thus the upside from re-negotiations in our view comes more from converting the contracts to count ongoing handset sales as well as due to higher royalties as cross-licensing becomes one-way licenses. Based on data from other deals we believe a 1% royalty is possible in one-way licenses especially as Nokia has strong essential protocol patents as well as implementation patents.

This is Nokia's newest business and we see growing this business as critical to the investment case of the stock. This business holds Nokia's intellectual property portfolio and the licensing and cross-licensing agreements signed with that portfolio that remain at Nokia. Means to grow this business include:

1. Monetizing the essential and non-essential IPR portfolio better

2. Technology Licensing business

3. Brand licensing

The initial part of the growth will be growth in the existing, that is IPR licensing, business. Nokia owns approx. 30,000 patents or 10,000 patent families. Of these there are 1200 standard essential patent families related to wireless communication standards or only ~12% of the total patent families. Apart from these key families, Nokia has a large number of implementation and local connectivity patent families, security and privacy patents, messaging patents and a wide range of hardware patents related to RF, circuitry, antennas, power management, sensors etc. All of the latter can be classified as implementation or non-essential patents which are also used by most handset companies. Thus within the consumer electronics industry, Nokia has potential to monetize from the handset market where most of its patents originated but with mobile technology now in many other communications devices and with its non-mobile IP having multiple consumer electronics applications, we expect to see Nokia attempt to monetize its IP outside the handset market as well.

Monetizing the essential and non essential IPR portfolio better

Though Nokia is likely to generate almost €600m revenue in Advanced Technologies in 2014, most of that revenue is related to its essential patent portfolio and secondly it is encumbered by historical cross-licensing when Nokia needed to use the IPR of other companies that needed its IPR, which reduced its own monetization of the IPR portfolio. In fact, Nokia's IPR portfolio was used by the company much more to reduce outflow of cash, i.e. prop up the gross margin, than as a generator of revenue.

Understanding cross-licensing

We believe it is a common misconception that if a handset maker has a Nokia license it pays a significant fee to Nokia. Assuming Party A has 100 patents weighted at 100 points (all patents may not be as valuable and thus patents will need to be assigned a value based on importance in any cross-licensing discussion) and revenue of $1000 and Party B has 50 patents weighted at 50 points and revenue of $500 then first the patents weights of the two parties negotiating a cross-license are netted, which means that Party A is net beneficiary of 50 points. At the same time the revenues of the two parties are also netted and here also Party A has $500 higher revenue. Thus it means that though Party A has net higher patent points of 50, the 50 patent points of Party B are used by Party A on double the revenue on which Party B is using Party A's higher patent points. Thus one can think of this situation as one where Party B has to pay for 50 patent points on $500 of revenue and Party A has to pay for 50 patent points also on the $500 of additional revenue vs. Party B that it generates. Thus in a cross-licensing scenario, the two parties will likely sign a deal that calls it quits; that is, although Party A has a better portfolio it will not receive any IPR royalties and Party B, though it has a weaker portfolio, will not pay any IPR royalties.

Table 1: Comparison of Nokia and Samsung 'relevant' revenue

	2007	2008
Nokia		
Nokia D&S (€m)	37,705	35,099
NSN ex. services (€m) [est based on ~ services sales share of 52-53%]	8,643	8,115
Nokia + 100% NSN (€m)	46,348	43,214
USD/EUR	1.3709	1.4711
Nokia + 100% NSN ($m)	**63,539**	**63,573**
Samsung		
Samsung handset sales (KRW bn)	22,331	28,939
Samsung network sales (KRW bn)	4,272	4,817
Total (KRW bn)	26,603	33,756
KRW/USD	929.15	1100.81
Total Samsung wireless sales ($m)	**28,632**	**30,665**

Source: Company data

We believe that Nokia and Samsung signed their IPR deal in 2008 which lasted until end 2013 (five years). Any deal signed in 2008 would potentially use 2007 revenue for the revenue netting purposes. However, we show both 2007 and 2008 revenue comparison above. As can be seen, in '07, Nokia 'relevant' revenue was 2.22x Samsung revenue and, in '08, Nokia 'relevant' revenue was 2.07x Samsung revenue. Samsung in '07 had a considerable IP portfolio with weighted portfolio possibly as much as 40-50% as good as that of Nokia. Based on the revenue data therefore we believe that Samsung pays very little if anything to Nokia to cross-license its IPR as Nokia's revenue was more than 2x Samsung's revenue and Samsung itself had a strong IPR portfolio needed by Nokia.

Understanding Nokia's existing Technology revenue

Nokia has guided to approx. €600m of Technology revenue in '14. The revenue based on available information is derived from:

1. Apple. Nokia signed a licensing deal with Apple for essential communications IPR and for some of Nokia's implementation patents. The deal was signed in 2Q11 and likely is capped at Apple's '10 or '11 volumes because Apple's contribution has not risen since that deal was struck. Based on the payment for

past infringement, we calculate that Apple pays a royalty rate of ~0.7%. Based on this and Apple's 2010 revenue we estimate that Apple pays ~€210m of IPR royalties to Nokia per annum.

2. Microsoft: Microsoft signed a deal to pay €1.65bn to license all of Nokia's IPR for 10 years including a fee to extend the license indefinitely thereafter. Nokia will recognize €155m as royalty fee every year and an additional €100m in year 10 to extend the license indefinitely. The Nokia–Microsoft deal closed in the last week of April 2014. Adjusting for this, Microsoft deal related payment in '14 would be approx. €106m.

3. Microsoft was, however, already a licensee of Nokia and was paying approx. €60-65m in annual royalty. This payment would be pro-rated in the part of the year that the Microsoft–Nokia deal had not closed and would amount to approx. €21m. Put together we calculate the total Microsoft related royalty in 2014 would amount to €127m.

4. HTC and Blackberry are full Nokia licensees based on recent deals signed. Both together had approx. $7.7bn revenue in '14 which assuming they pay a full 1% royalty would amount to approx €60m of royalty from these two companies.

5. As explained in the earlier section, the Samsung payment if any is likely minor, possibly €20m or so per annum. Nokia has disclosed that eight of the top 15 handset vendors are licensees. We have accounted directly for four vendors here though Blackberry may in '14 not be a top-15 vendor. Thus cross-licensing revenue from Motorola brand+ LG Electronics + Sony + Huawei is likely to be €172m.

Table 2: J.P Morgan estimate of Technology revenue contributors

(€ millions)	2014E
Apple	210.0
Microsoft	127.0
Samsung	20.0
Blackberry + HTC	60.0
LG + Sony + Huawei + Motorola	172.0
Total 2014 revenue per consensus	589.0

Source: J.P. Morgan estimates

Another factor supporting the idea that Samsung is a negligible contributor to Nokia Technology revenue or flat contributor is that, in 2013, although Samsung 'relevant' revenue rose 40% YoY, Nokia Technology revenue in '13 was essentially flat with revenue in '12 indicating Nokia does not get paid by Samsung at all or it gets a fixed payment.

Why should existing Technology revenue grow?

Excluding the growth in '14 from the Microsoft deal, Nokia's Technology revenue has essentially remained flat from 2012 to 2014 despite significant growth seen at two Nokia licensees during that period. Though Apple has still not reported 4Q14 and nor has Samsung, based on market estimates, Apple relevant revenue is likely to grow about 25% from '12 to '14 and Samsung about 23% over the same period. In fact Samsung growth from '12 to '13 was as much as 40%. Despite the top licensees growing their businesses significantly, Nokia Technology revenue is virtually flat. This is because the cross-licensing agreements signed by Nokia resulted in low to no revenues from some licensees (we believe Samsung pays Nokia a very minor sum if it pays Nokia at all to use its IPR as we have explained above) and volume caps at low levels from others (Apple falls into this category). We believe Nokia signed these licenses because it considered itself market leader in the handset market with likelihood it would maintain that position and never considered a position when it would lose its primacy of the handset market. Thus we believe Nokia Technology revenue from IPR licensing should grow because:

1. The new deals it signs take into account volumes shipped by a licensee in any one year rather than fixing the fee for the term of the license;

2. The actual royalty rate that Nokia gets paid for is also changed because Nokia will no longer cross-license its IPR and will ask for a direct license.

The royalty rate and FRAND rates

What royalty rate licensees pay is not transparent. Some of the available data-points are:

- Ericsson filed suit against Indian handset vendor Micromax in India. Indian courts have ruled that until the lawsuit is decided, Micromax has to make interim payments of 0.8% for GSM or GSM+GPRS handsets and 1% for EDGE+GPRS+GSM or WDDMA/HSPA handsets until November 2015. Thereafter it is expected to increase to 1.1% and will increase every 12 months. Given that Micromax does not have any significant protocol IP, we believe this Indian court royalty disclosure would constitute a FRAND rate for a single player like Ericsson. Other major IP holders such as Nokia should thus be able to get similar results from an Indian court.

- Nokia settled with Apple in 2Q11 and based on the historical settlement amount, we can approximately calculate the royalty rate being paid by Apple to Nokia. Based on the calculation below, we calculate Apple settled with Nokia paying a cross-license royalty rate of 0.7%.

Table 3: Calculating Nokia royalty from Apple-Nokia cross-license deal in 2011

Nokia recognized royalty until 2011 including 2Q11 (€m)	430	
Nokia recognized royalty until 2Q11 including 2Q11 ($m)	596	Using USD/EUR average rate of 1.385 from 2008 to 2011
Apple revenue on which Nokia got royalty		
Apple's iPhone revenue from 2007 to 2Q11 ($m)	81,153	
Apple's iPad revenue from 2007 to 2Q11 ($m)	5,269	assuming 30% iPad based on cellular
Total iPhone and iPad revenue ($m)	86,422	
Implied Nokia's royalty rate from Apple from '07 to 2Q11	0.7%	

Source: J P Morgan estimates based on company release

- Ericsson settled with Samsung in 1Q14 and based on the historical settlement amount, we can approximately calculate the royalty rate being paid by Samsung to Ericsson. Based on the calculation below, we calculate Samsung settled with Ericsson paying a cross-license royalty rate of 0.31%. Given that Ericsson is getting ~1% from Micromax and 0.31% from Samsung, this means that 1% is likely the FRAND royalty rate paid by a vendor with no significant IP that

Ericsson has to cross-license whereas 0.31% is the royalty rate paid by Samsung with its own significant IPR portfolio.

Table 4: Calculating Ericsson royalty from Samsung-Ericsson cross-license deal in 2014

Total Samsung royalty payment to Ericsson post their litigation settlement in 4Q13 in SEK, m	4,200
Assumed above payment was for two years - 2012 to 2013	
Average 1 USD in SEK over 2012 and 2013	6.643
2-year Samsung royalties to Ericsson in USD, m	632
Samsung's handset+telecom equipment revenue over 2012-2013 in USD, m	207,071
Implied cross-license royalty rate in Ericsson Samsung licensing agreement	0.31%

Source: J P Morgan estimates based on company release

What rate will Nokia be able to monetize at?

Nokia as it is currently constituted actually consists of three companies:

1. The original Nokia with Nokia's 10,000 patent families or 30,000+ patents.

2. Nokia Networks which was formerly called NSN or Nokia Siemens Networks. Nokia bought Siemens' stake in this business in July 2013. NSN had approx. 3800 patent families of its own with 12,000+ patents.

3. HERE, which is Nokia's map business. HERE is a successor of the 2007 acquisition of Navteq by Nokia. HERE has its own separate patent portfolio.

The Advanced Technology business of Nokia only owns the original Nokia patent portfolio and not the other two portfolios. That business unit will not need any cross-licenses and will only directly license its IPR. Thus the issue of cross-licensing reducing the royalty payment should not be a concern for the business because it does not need any other parties' IPR. Nokia Networks will need the IPR of other companies. However, Nokia Networks has its own considerable IPR portfolio which it can use to negotiate access to other companies' IPR. Similarly many if not most handset vendors will also need separate accesses to HERE's navigation and maps based IPR portfolio. Because HERE sells its maps to others, it may need to cross-license its portfolio to some competitors or handset vendors which own critical map and navigation related IPR.

Thus due to the structure of the new Nokia, Nokia may be able to completely unencumber the 'original' Nokia IPR portfolio from cross-licensing requirements. In this manner, Nokia has potential to maximize its monetization. Based on data in the previous section, approx. 1% seems to be the level of monetization of non-cross-licensed IPR – hence in our view 1% or slightly above should be the best case monetization of its portfolio that Nokia can obtain.

Valuing IPR licensing

We assume that by 2018 when most of the IPR renegotiations are done, Nokia will recognize royalty on 1.2bn units. The size of the handset market in '14 is approx. 1.9bn units. This market should be 2.1bn units by 2018 (source: Gartner) but we assume only 1.2bn units monetizable due to:

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1. Some of the volume will be attributed to Microsoft which does not contribute to any new value for Nokia until 2024 because all the Microsoft payments have been made up-front.

2. We are assuming that there is no resolution of monetization with Chinese vendors in China, though this also assumes that Chinese vendors selling into Western markets will be monetized.

Table 5: Nokia's potential royalty revenue in 2018 assuming 1% royalty rate

Size of addressable market in 2014 (billions)	1.2
Handset ASP (US$) (below '14 estimates of peer by ~8%)	210
Royalty rate achievable by 2018 by Nokia	1%
Royalty revenue achievable by 2018 by Nokia (US$ billion)	2.52
Royalty revenue achievable by 2018 by Nokia (€ billion)	2,153

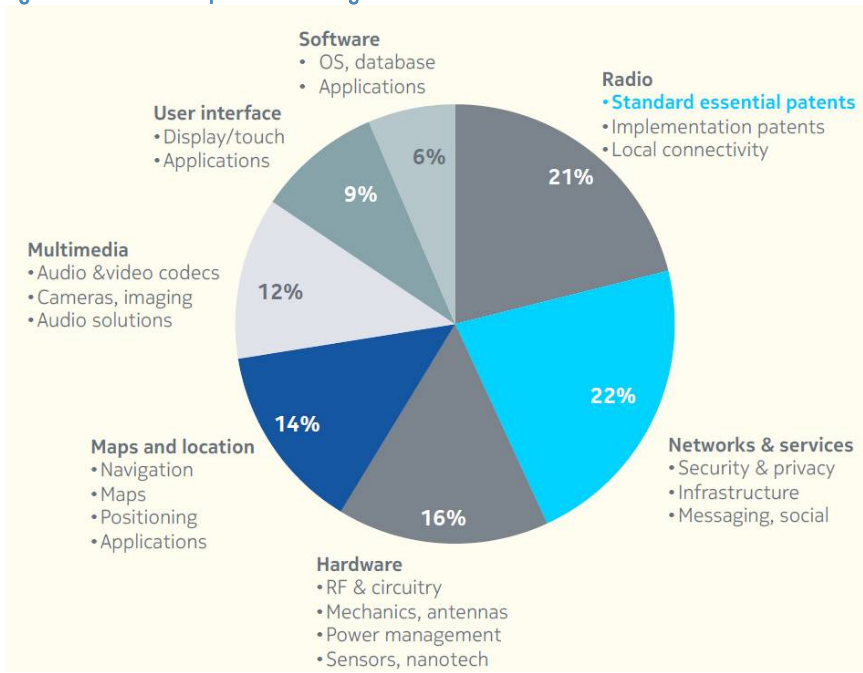
Source: J. P. Morgan estimates

We estimate Nokia to have costs of approx. € 215m in Technology in 2014. If Nokia were able to increase revenue so significantly from the current €600m, we would expect costs to increase by at least €100m to fund more R&D. Thus a business with approx. €2.15bn in revenue should have approx. €1.8bn in EBIT. This EBIT can be used to value the business.

Technology Licensing

The figure presented by Nokia at its 2014 CMD as shown below shows that ~79% of Nokia patents are in non radio and are not licensed to any of its licensees bar Microsoft. This IPR was developed to improve Nokia's own handsets. Now with no handset business, Nokia has intention to monetize this IPR. It will not do this through IPR licensing though it will likely enforce much more on this IPR now. The plan is to start a new business in technology licensing along the lines of ARM's licensing and royalty model. This model will result in Nokia continuing to develop some particular technologies such as, say, audio codecs or video codecs or new sensor technologies or intelligent RF circuitry that provides power savings. It will license this technology to handset makers or other consumer electronics companies. Additionally, Nokia will also license their software as well the industrial design expertise to other companies. These companies will integrate such Nokia technology and IPR into their chips and devices and then potentially pay per-device royalty fee to Nokia.

Figure 3: Nokia IPR exposure showing that ~80% of IPR remains unlicensed to IPR licensees



Source: Nokia data from CMD

The Technology licensing business is a start-up business within Nokia Technologies and will take a few years to begin revenue generation either in licensing or in royalties. We currently do not value this business in our valuation of the business.

Brand Licensing

The reason behind brand licensing is that Nokia spent billions of euros over 20 years on building a strong consumer brand and, though damaged, the brand remains potent in some important global markets. Nokia now does not sell any consumer product and thus licensing the brand to high quality manufacturers in some key markets will enable Nokia to monetize the brand. However the company is taking a very steady and cautious approach on this front.

The company has decided to test the waters in China and is working with leading contract manufacturer Foxconn on building a tablet – the so-called Nokia N1. Nokia will provide technology expertise and product design expertise, and license its IPR and its brand to Foxconn for the device. The device revenue, costs and distribution will be the responsibility of Foxconn. Nokia will only report per-device brand fees and IPR royalties associated with the device. The initial run of the N1 of 20k units sold out in China this week in four minutes – thus there does seem to be demand for the device. If this initial run is successful, we should see Foxconn releasing the tablet in other markets where the Nokia brand is strong, such as Russia and India.

Most importantly this would be a test in preparation for 2016 when the Nokia brand in smartphones will be back in Nokia's control when the company in agreement with a partner such as Foxconn or another could decide to enter selected markets with a smartphone. We believe this business is extremely young for the company and the investment minimal. If successful, the business has potential to provide a good cash flow stream to the company though it is too early to know if this model is going to be lucrative. We currently do not value this business venture in our valuation of Nokia's Advanced technology business.

Maps

Nokia has a changed strategy in Maps that has been clear with the new management. The focus of the business will be on:

1. Automotive market

2. Enterprise market

Though HERE maps will continue to make applications for the consumer market, this market will clearly be an auxiliary market for Nokia and not a primary market. Thus we would, for instance, see Nokia maps used by consumers as auxiliary on their smartphones once their car has taken them to say a downtown parking location… from where the car application "hands over" to the smartphone application to help the consumer find the final location.

Automotive is by far the main driver of future growth at HERE. Autos was only 35% of sales in '10 but was 55% of sales in '13 and this percentage is likely still rising. Once the overhang from the consumer segment is gone, HERE should begin growing due to:

1. Increased penetration of embedded navigation systems in cars (per Nokia penetration has already risen from 10% in '10 to 20% in '13).

2. Growth in the auto market;

3. More HERE customers buying HERE platform as opposed to only Map data which will result in higher revenue per license sold.

Enterprise is another market where we expect HERE to continue to build its penetration. Enterprise customers include Fedex, UPS, Oracle and a large number of other companies that need location information as part of their business. HERE can be used in smart asset management – hence the number of logistics companies among the customer base. Other companies that need to track, measure and analyze geographically dispersed assets are likely potential future customers.

Key imperatives for the HERE business are:

1. Improving profitability. HERE spends almost €500m a year in operating expenses. At the same time the business has not grown over the last few years due to the decline in its consumer business, i.e. handsets. Thus HERE needs to optimize expenses much more substantially and improve profitability. The Nokia team in our view has done an admirable job on profitability improvement in Nokia Networks and we expect that at least some of techniques employed there will be used at HERE to improve earnings.

2. HERE needs to grow. The lack of growth is again due to consumer, i.e. handset, business decline. We believe we are close to the point when the decline of the handset business will be less than the increase in the auto business meaning HERE should grow in ’15 or ’16.

If HERE can succeed in improving profitability and in growing, we believe the market will begin to value HERE at a higher multiple than the 1x sales it is currently valued at. If for instance over a two-year period, HERE can go back to the 20%+ operating margin it reported when Nokia acquired it, then we see it as entirely likely that the market could value the business at 2-3x sales providing additional tailwind to Nokia stock value.

Adjusting the sum of the parts

We first published our €8 target price for Nokia in 2013. We update here to integrate elements we had not done before:

1. We increase valuation of Networks to 1.1x sales because margin of networks over the last six quarters has averaged 11% and we see no reason to believe margin is about to decrease.

2. We highlight that in Advanced Technology, we do not consider the Microsoft cash flow, and the ’18 revenue and EBIT forecast at 1% royalty rate is ex. Microsoft payments.

3. We note that the handset market in 2018 will be approx. 2.1 billion units based on Gartner estimate. We exclude both Microsoft units and China units to use 1.2bn unit expectation for that year.

4. We include present value of losses carried forward as well as cost of the corporate centre in our sum of the parts which we were not including before.

5. We present three scenarios for royalty rate: our preferred 1% but also valuations using 70 bps and using 40 bps.

6. The same three scenarios are also presented using 2.5x sales valuation for HERE maps assuming that in 12-18 months, Nokia will improve profitability at this business.

7. Our target price is, however, based on using 1% IPR monetization, 2.5x sales on HERE as we believe that after turning around Networks, Nokia management will be focused on improving growth and margin in HERE maps which should result in better valuation over the next 12-18 months and including the present value of losses carried forward.

On the back of this updated sum of the parts, we adjust our target price on Nokia to €9.0 (previously €8).

Table 6: Nokia sum of the parts under 3 IPR monetization scenarios with HERE at 1x sales

€m	Multiple	Sales /EBIT	Value	Discounted value
Nokia Networks on '16 sales	1.1	11,582	12,741	12,741
HERE on '16 sales	1.0	1,081	1,081	1,081
Advanced Technology '18 EBIT discounted to '15	10.0	1,838	18,384	15,193
Common corporate expenses	5.0	-120	-600	-600
Net cash at end of 3Q14				5,025
Pension deficit at end of '13				-199
PV of losses carried forward				2,500
Adjustment to cash to use fully diluted share count				750
Market value assuming 1% IPR monetization				36,491
Implied value per share (€) assuming 1% IPR monetization				**9.1**
Advanced Technology '18 EBIT discounted to '15	10.0	1,207	12,074	9,978
Market value assuming 0.7% IPR monetization				31,276
Implied value per share (€) assuming 0.7% IPR monetization				**7.8**
Advanced Technology '18 EBIT discounted to '15	10.0	661	6,614	5,466
Market value assuming 0.4% IPR monetization				26,763
Implied value per share (€) assuming 0.4% IPR monetization				**6.7**

Source: J.P. Morgan estimates

Table 7: Nokia sum of the parts under 3 IPR monetization scenarios with HERE at 2.5x sales

€m	Multiple	Sales /EBIT	Value	Discounted value
Nokia Networks on '16 sales	1.1	11,582	12,741	12,741
HERE on '16 sales	2.5	1,081	2,702	2,702
Advanced Technology '18 EBIT discounted to '15	10.0	1,838	18,384	15,193
Common corporate expenses	5.0	-120	-600	-600
Net cash at end of 3Q14				5,025
Pension deficit at end of '13				-199
PV of losses carried forward				2,500
Adjustment to cash to use fully diluted share count				750
Market value assuming 1% IPR monetization				38,112
Implied value per share(€) assuming 1% IPR monetization (used to derive our target price)				**9.5**
Advanced Technology '18 EBIT discounted to '15	10.0	1,207	12,074	9,978
Market value assuming 0.7% IPR monetization				32,897
Implied value per share (€) assuming 0.7% IPR monetization				**8.2**
Advanced Technology '18 EBIT discounted to '15	10.0	661	6,614	5,466
Market value assuming 0.4% IPR monetization				28,384
Implied value per share (€) assuming 0.4% IPR monetization				**7.1**

Source: J.P. Morgan estimates

4Q14 preview

We expect Nokia to report another set of robust results for 4Q. Our 4Q sales estimate of €3.7bn (+11.3% QoQ and +6.5YoY) is in line with consensus. We are ~6% lower than consensus on 4Q14 EBIT, mainly due to lower EBIT and margin in networks. Nokia had guided to full year 2014 networks EBIT margin to be *slightly over 11%*. Our 2014 networks EBIT margin estimate is 11.5% with 4Q14 margin estimate of 11.6% while consensus 2014 networks EBIT margin estimate is 11.7% with 4Q margin of 12.4%. Thus, market is expecting somewhat better networks margin in 4Q than what Nokia has guided. We note that Nokia reported networks EBIT margin of 13.5% in 3Q14 though this had benefited from favorable sales mix. While mix might not have been as favorable in 4Q14, we believe there is still potential for Nokia to report 4Q14 networks EBIT margin close to the 3Q14 level of 13.5% thanks to some operational leverage likely from robust seasonal sales growth in 4Q14 (JPMe: +11% QoQ). Weaker EUR could have also aided 4Q margin. Thus, we believe that there could be modest upside to consensus EBIT estimates. Our estimates for HERE and Technology division are in-line with or only modestly different from consensus.

Table 8: Nokia: 4Q14 preview

	JPMe 4Q14E	Cons 4Q14E	% diff vs. Cons	3Q14A	4Q13A	Q/Q growth	Y/Y growth
Revenue	**3,701.9**	**3,705.5**	**-0.1%**	**3,325.0**	**3,476.0**	**11.3%**	**6.5%**
Networks	3,268.3	3,283.9	-0.5%	2,940.0	3,105.0	11.2%	5.3%
HERE	264.9	267.2	-0.9%	236.5	254.0	12.0%	4.3%
Advanced Technologies	168.7	158.9	6.2%	152.0	121.0	11.0%	39.5%
Gross profit	1,549.4	1,570.6	-1.3%	1,480.0	1,478.0	4.7%	4.8%
Gross Margin	**41.9%**	**42.4%**	**-0.5pp**	**44.5%**	**42.5%**	**-2.7pp**	**-0.7pp**
Networks	36.0%	NA	NA	39.1%	37.6%	-3.1pp	-1.6pp
HERE	77.5%	NA	NA	75.3%	75.6%	2.2pp	1.9pp
Advanced Technologies	98.7%	NA	NA	98.7%	98.3%	0.0pp	0.3pp
Opex	**1,079.7**	**1,071.6**	**0.8%**	**1,023.0**	**1,070.0**	**5.5%**	**0.9%**
EBIT	**469.7**	**499.0**	**-5.9%**	**457.0**	**408.0**	**2.8%**	**15.1%**
Networks	379.4	407.2	-6.8%	397.0	349.0	-4.4%	8.7%
HERE	16.3	16.6	-2.0%	0.5	25.0	3156.4%	-34.9%
Advanced Technologies	106.0	105.1	0.9%	98.0	82.0	8.2%	29.3%
EBIT margin, clean	**12.7%**	**13.5%**	**-0.8pp**	**13.7%**	**11.7%**	**-1.1pp**	**0.9pp**
Networks	11.6%	12.4%	-0.8pp	13.5%	11.2%	-1.9pp	0.4pp
HERE	6.1%	6.2%	-0.1pp	0.2%	9.8%	5.9pp	-3.7pp
Advanced Technologies	62.8%	66.1%	-3.3pp	64.5%	67.8%	-1.6pp	-4.9pp
EPS (diluted) (€)	**0.08**	**0.09**	**-7.6%**	**0.09**	**0.03**	**-4.0%**	**198.1%**

Source: J.P. Morgan estimates, Company data. SME Direkt Consensus

Financials

We are introducing quarterly estimates for 2015 but there are no changes to our full year 2015 estimates. We are also introducing 2016 estimates.

Table 9: Nokia: Quarterly P&L

€m	1Q13	2Q13	3Q13	4Q13	1Q14	2Q14	3Q14	4Q14E	1Q15E	2Q15E	3Q15E	4Q15E
Revenue	**3,140.0**	**3,155.0**	**2,939.0**	**3,476.0**	**2,664.0**	**2,942.0**	**3,325.0**	**3,701.9**	**2,835.1**	**3,111.6**	**3,299.0**	**3,834.6**
Gross profit	1,234.0	1,375.0	1,259.0	1,478.0	1,218.0	1,296.0	1,480.0	1,549.4	1,189.3	1,315.7	1,388.0	1,668.8
Gross Margin	39.3%	43.6%	42.8%	42.5%	45.7%	44.1%	44.5%	41.9%	41.9%	42.3%	42.1%	43.5%
Opex	980.0	944.8	915.2	1,070.0	914.0	949.0	1,023.0	1,079.7	983.7	991.8	1,013.7	1,091.0
EBIT	**254.0**	**430.2**	**343.8**	**408.0**	**304.0**	**347.0**	**457.0**	**469.7**	**205.6**	**323.9**	**374.3**	**577.8**
EBIT margin	**8.1%**	**13.6%**	**11.7%**	**11.7%**	**11.4%**	**11.8%**	**13.7%**	**12.7%**	**7.3%**	**10.4%**	**11.3%**	**15.1%**
Income from associates	-1.0	-4.0	3.0	6.0	0.0	-5.0	-3.0	0.0	0.0	0.0	0.0	0.0
Financial income	-111.0	-55.0	-64.0	-50.0	-74.0	-81.0	-22.0	-40.0	-40.0	-40.0	-40.0	-40.0
Tax	67.0	38.0	130.0	47.0	59.0	45.0	80.0	107.4	41.4	71.0	83.6	134.4
Minority Interest	-27.0	-89.0	0.0	0.0	-2.0	-2.0	-3.0	0.0	0.0	0.0	0.0	0.0
Net income from continued operations	48.0	244.2	152.8	317.0	169.0	214.0	349.0	322.3	124.2	212.9	250.7	403.3
EPS (basic), cont ops (€)	0.01	0.07	0.04	0.09	0.05	0.06	0.09	0.09	0.03	0.06	0.07	0.11
EPS (diluted), cont ops (€)	**0.01**	**0.06**	**0.04**	**0.07**	**0.04**	**0.05**	**0.09**	**0.08**	**0.04**	**0.06**	**0.07**	**0.11**
Shares Outstanding (Basic)	3,711	3,712	3,712	3,712	3,713	3,714	3,701	3,679	3,656	3,633	3,611	3,588
Shares Outstanding (Diluted)	3,711	4,009	3,739	4,396	4,396	4,120	4,019	3,996	3,973	3,950	3,927	3,904

Source: J.P. Morgan estimates, Company data. Note: Starting 1Q13 financials exclude handset business as it is accounted for as discontinued operation

Table 10: Nokia: Annual P&L

€m	2009	2010	2011	2012	2013	2014E	2015E	2016E
Revenue	**40,996.5**	**42,450.0**	**38,661.0**	**15,401.0**	**12,710.0**	**12,632.9**	**13,080.3**	**13,421.0**
YoY growth		3.5%	-8.9%	-60.2%	-17.5%	-0.6%	3.5%	2.6%
Gross profit	13,419.0	12,994.0	11,373.0	5,625.0	5,346.0	5,543.4	5,561.9	5,795.4
Gross Margin	32.7%	30.6%	29.4%	36.5%	42.1%	43.9%	42.5%	43.2%
Opex	9,916.0	9,790.8	9,548.0	4,483.0	3,909.0	3,965.7	4,080.3	4,150.3
EBIT	**3,503.0**	**3,203.2**	**1,325.0**	**1,112.0**	**1,437.0**	**1,577.7**	**1,481.6**	**1,645.1**
EBIT margin	**8.5%**	**7.5%**	**3.4%**	**7.2%**	**11.3%**	**12.5%**	**11.3%**	**12.3%**
Income from associates	30.0	1.0	-23.0	-1.0	4.0	-8.0	0.0	0.0
Financial income	-265.0	-285.0	-102.0	-357.0	-280.0	-217.0	-160.0	-160.0
Tax	876.0	827.0	562.0	171.0	282.0	291.4	330.4	371.3
Minority Interest	63.0	169.4	70.0	0.0	-117.0	-7.0	0.0	0.0
Net income from continued operations	2,455.0	2,261.6	708.0	583.0	762.0	1,054.3	991.2	1,113.8
EPS (basic), cont ops (€)	0.66	0.61	0.19	0.16	0.21	0.29	0.27	0.31
EPS (diluted), cont ops (€)	**0.66**	**0.61**	**0.19**	**0.16**	**0.20**	**0.27**	**0.27**	**0.30**
Shares Outstanding (Basic)	3,705	3,709	3,710	3,711	3,712	3,702	3,622	3,543
Shares Outstanding (Diluted)	3,714	3,712	3,714	3,711	4,121	4,094	3,939	3,858

Source: J.P. Morgan estimates, Company data

Table 11: Nokia: Segment Information

€m	1Q14	2Q14	3Q14	4Q14E	2014E	1Q15E	2Q15E	3Q15E	4Q15E	2015E	2016E
Revenue	**2,664**	**2,942**	**3,325**	**3,702**	**12,632**	**2,835**	**3,112**	**3,299**	**3,835**	**13,080**	**13,421**
Networks	2,328	2,566	2,940	3,268	11,102	2,469	2,718	2,898	3,326	11,411	11,582
Location and Commerce	209	233	237	265	943	222	245	240	303	1,010	1,081
IP	131	147	152	169	599	143	149	161	205	659	758
Gross Margin	**45.7%**	**44.1%**	**44.5%**	**41.9%**	**43.9%**	**41.9%**	**42.3%**	**42.1%**	**43.5%**	**42.5%**	**43.2%**
Networks	39.6%	38.1%	39.1%	36.0%	38.1%	35.5%	36.0%	36.0%	37.0%	36.2%	36.4%
Location and Commerce	77.5%	74.7%	75.3%	77.5%	76.2%	77.0%	77.8%	77.5%	77.8%	77.5%	77.5%
IP	98.5%	98.6%	98.7%	98.7%	98.6%	98.6%	98.6%	98.6%	98.6%	98.6%	98.6%
EBIT	**304**	**347**	**457**	**470**	**1,578**	**206**	**324**	**374**	**578**	**1,482**	**1,645**
Networks	215	281	397	379	1,272	145	243	292	419	1,099	1,135
Location and Commerce	10	0	1	16	27	5	19	10	45	79	132
IP	86	96	98	106	386	87	93	104	145	429	505
EBIT margin	**11.4%**	**11.8%**	**13.7%**	**12.7%**	**12.5%**	**7.3%**	**10.4%**	**11.3%**	**15.1%**	**11.3%**	**12.3%**
Networks	9.2%	11.0%	13.5%	11.6%	11.5%	5.9%	9.0%	10.1%	12.6%	9.6%	9.8%
Location and Commerce	4.8%	0.0%	0.2%	6.1%	2.8%	2.2%	7.8%	4.0%	14.9%	7.8%	12.2%
IP	65.6%	65.3%	64.5%	62.8%	64.5%	60.9%	62.1%	64.3%	70.7%	65.1%	66.7%

Source: J.P. Morgan estimates, Company data

Table 12: Networks segment breakdown

€m	1Q14	2Q14	3Q14	4Q14E	1Q15E	2Q15E	3Q15E	4Q15E	2012	2013	2014E	2015E	2016E
Mobile broadband sales	**1,250.0**	**1,357.0**	**1,672.0**	**1,797.4**	**1,366.0**	**1,482.1**	**1,600.7**	**1,840.8**	**6,043.0**	**5,346.0**	**6,076.4**	**6,289.7**	**6,384.0**
QoQ	-20.0%	8.6%	23.2%	7.5%	-24.0%	8.5%	8.0%	15.0%					
YoY	0.5%	5.9%	32.8%	15.1%	9.3%	9.2%	-4.3%	2.4%	-4.6%	-11.5%	13.7%	3.5%	1.5%
% of total sales	53.7%	52.9%	56.9%	55.0%	55.3%	54.5%	55.2%	55.3%	43.9%	47.4%	54.7%	55.1%	55.1%
Mobile broadband EBIT	**103.0**	**105.0**	**254.0**	**188.7**	**82.0**	**118.6**	**136.1**	**202.5**	**490.0**	**422.0**	**650.7**	**539.1**	**558.6**
Margin	**8.2%**	**7.7%**	**15.2%**	**10.5%**	**6.0%**	**8.0%**	**8.5%**	**11.0%**	**8.1%**	**7.9%**	**10.7%**	**8.6%**	**8.8%**
Global services sales	**1,069.0**	**1,189.0**	**1,268.0**	1,470.9	1,103.2	1,235.5	1,297.3	1,485.4	**6,929.0**	**5,753.0**	4,996.9	5,121.4	5,198.3
QoQ	-30.6%	11.2%	6.6%	16.0%	-25.0%	12.0%	5.0%	14.5%					
YoY	-24.9%	-18.5%	-4.7%	-4.5%	3.2%	3.9%	2.3%	1.0%	2.8%	-17.0%	-13.1%	2.5%	1.5%
% of total sales	45.9%	46.3%	43.1%	45.0%	44.7%	45.5%	44.8%	44.7%	50.3%	51.0%	45.0%	44.9%	44.9%
Global services EBIT	**115.0**	**165.0**	**143.0**	**190.7**	**85.2**	**129.3**	**150.0**	**195.0**	**334.0**	**693.0**	**613.7**	**559.4**	**576.4**
Margin	**10.8%**	**13.9%**	**11.3%**	**13.0%**	**7.7%**	**10.5%**	**11.6%**	**13.1%**	**4.8%**	**12.0%**	**12.3%**	**10.9%**	**11.1%**
Total sales	**2,328.0**	**2,566.0**	**2,940.0**	**3,268.3**	**2,469.2**	**2,717.7**	**2,898.0**	**3,326.2**	**13,779.0**	**11,282.0**	**11,102.3**	**11,411.1**	**11,582.3**
QoQ	-25.0%	10.2%	14.6%	11.2%	-24.5%	10.1%	6.6%	14.8%					
YoY	-17.0%	-7.7%	13.4%	5.3%	6.1%	5.9%	-1.4%	1.8%	-1.9%	-18.1%	-1.6%	2.8%	1.5%
Total EBIT	**215.0**	**281.0**	**397.0**	**379.4**	**167.1**	**247.8**	**286.1**	**397.5**	**752.0**	**1,119.0**	**1,272.4**	**1,098.5**	**1,135.0**
Margin	**9.2%**	**11.0%**	**13.5%**	**11.6%**	**6.8%**	**9.1%**	**9.9%**	**11.9%**	**5.5%**	**9.9%**	**11.5%**	**9.6%**	**9.8%**

Source: Company reports.

Investment Thesis, Valuation and Risks

Nokia *(Overweight; Price Target: €9.00)*

Investment Thesis

We have an Overweight rating on Nokia. We believe that there remains potential for substantial growth in Nokia's sales and earnings over the mid to long term post the sale of the handset business. The high margin IP business in particular could be become a major driver of growth as Nokia aggressively monetizes its existing IP portfolio and new IP over coming years.

Valuation

We have an SoTP-based PT of €9.0 for Nokia based on our estimated '16/'18 financials for different divisions, as shown in table below. We conservatively discount the SoTP derived in the table below by 5% to set our PT at €9.0. Our PT end date is Dec '15. Our Nokia ADR PT is $10.8 which is the USD equivalent of our local currency share price target of €9.0.

SoTP: NSN at 1x '18E sales; HERE at 1x '18E sales; IP licensing at 10x '18E EBIT run-rate and adjusting cash for various items

€m	Multiple	Sales /EBIT	Value	Discounted value
Nokia Networks on '16 sales	1.1	11,582	12,741	12,741
HERE on '16 sales	2.5	1,081	2,702	2,702
Advanced Technology '18 EBIT discounted to '15	10.0	1,838	18,384	15,193
Common corporate expenses	5.0	-120	-600	-600
Net cash at end of 3Q14				5,025
Pension deficit at end of '13				-199
PV of losses carried forward				2,500
Adjustment to cash to use fully diluted share count				750
Market value assuming 1% IPR monetization				**38,112**
Implied value per share(€) assuming 1% IPR monetization (used to derive our target price)				**9.5**

Source: J.P. Morgan estimates, Company data.

Risks to our Rating and Price Target

Key risks to our rating and price target are:

- Slower- and lower-than-expected progress in monetization of Nokia's IP portfolio over the next 12-18 months could be negative for the Nokia share price
- If the recent improvement in the performance of NSN reverses, it would be negative for the Nokia share price.
- Large M&A could impact the sentiment on the stock.

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JPM Q-Profile

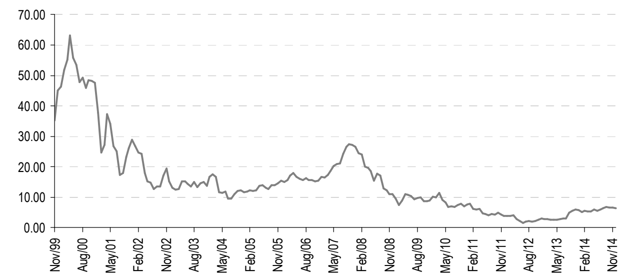
Nokia Oyj (FINLAND / Information Technology)

As Of: 26-Dec-2014

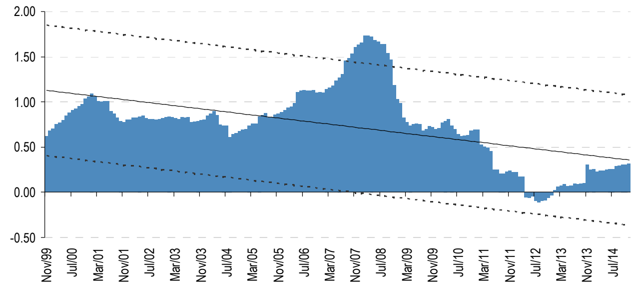
Global Equity Quantitative Analysis

Quant_Strategy@jpmorgan.com

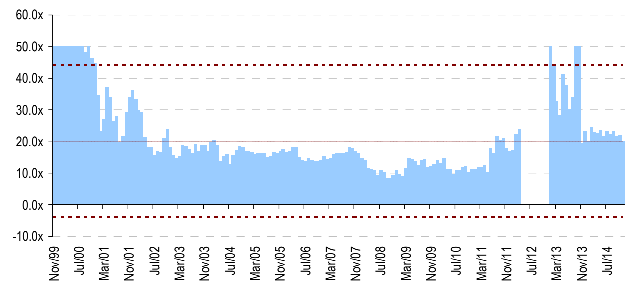
Local Share Price Current: 6.33



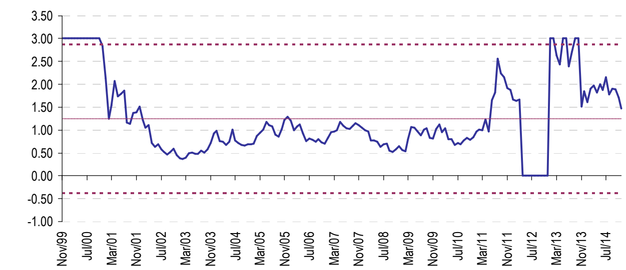
12 Mth Forward EPS Current: 0.32



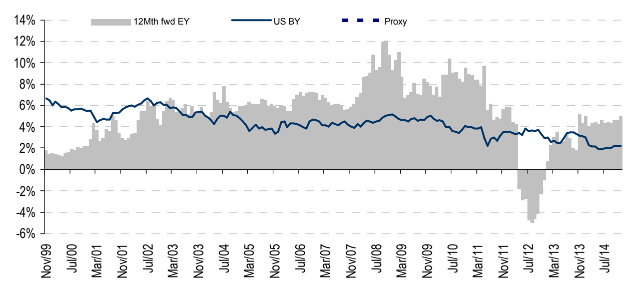
PE (1Yr Forward) Current: 20.1x



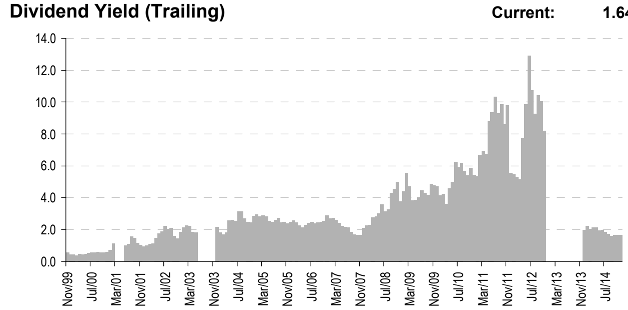
P/E Relative to Finland Index Current: 1.47



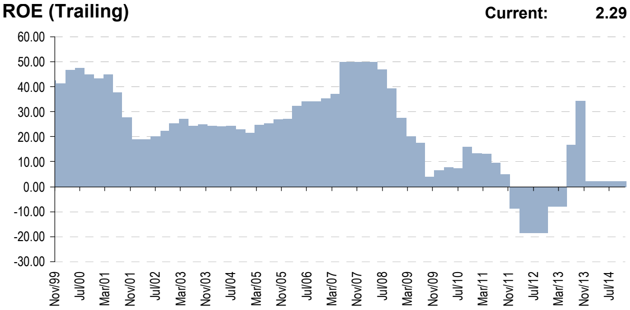
Earnings Yield (& Local Bond Yield) Current: 5%



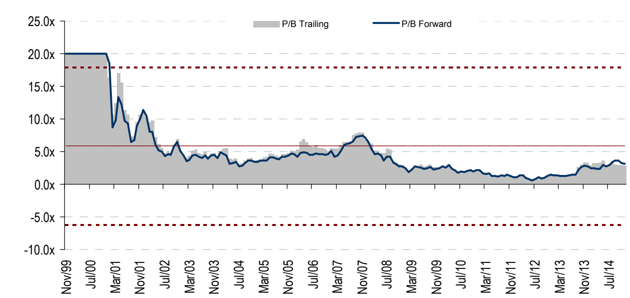
Dividend Yield (Trailing) Current: 1.64



ROE (Trailing) Current: 2.29



Price/Book (Value) Current: 2.8x



Summary

Nokia Oyj											
FINLAND	TICKER NOK1V FH							As Of:			26-Dec-14
Information Technology								Local Price:			6.33
								EPS:			0.32
	Latest	Min	Max	Median	Average	2 S.D.+	2 S.D. -	% to Min	% to Max	% to Med	% to Avg
12mth Forward PE	**20.08x**	0.00	50.00	16.82	20.18	44.16	-3.80	-100%	149%	-16%	1%
P/BV (Trailing)	**2.83**	0.67	25.00	4.24	5.91	17.96	-6.14	-76%	783%	50%	109%
Dividend Yield (Trailing)	**1.64x**	0.00	12.92	2.34	2.97	8.20	-2.27	-100%	686%	42%	80%
ROE (Trailing)	**2.29**	-18.57	50.00	24.36	22.10	58.34	-14.14	-911%	2083%	963%	865%

Source: Bloomberg, Reuters Global Fundamentals, IBES CONSENSUS, JPMorgan Quantitative & Derivative Strategy

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Nokia: Summary of Financials

Profit and Loss Statement

€ in millions, year end Dec	FY11	FY12	FY13	FY14E	FY15E
Revenues	38,661	15,401	12,710	12,633	13,080
% Change Y/Y	(8.9%)	(60.2%)	(17.5%)	(0.6%)	3.5%
Gross Profit	11,373	5,625	5,346	5,543	5,562
Gross Margin (%)	29.4%	36.5%	42.1%	43.9%	42.5%
EBIT (Adj)	1,325	1,112	1,437	1,578	1,481
% Change Y/Y	(58.6%)	(16.1%)	29.2%	9.8%	(6.1%)
EBIT Margin (Adj)	3.4%	7.2%	11.3%	12.5%	11.3%
Net Interest	(102)	(357)	(280)	(217)	(160)
Earnings before tax	1,200	754	1,161	1,353	1,321
% change Y/Y	(58.9%)	(37.2%)	54.0%	16.5%	(2.3%)
Tax (charge)	(562)	(171)	(282)	(291)	(330)
Tax as a % of BT	46.8%	22.7%	24.3%	21.5%	25.0%
Net Income (Reported)	708	583	97	622	991
% change Y/Y	(68.7%)	(17.7%)	(83.4%)	541.5%	59.2%
Adj.EPS	0.19	0.16	0.20	0.27	0.27
% Change Y/Y	(68.7%)	(17.6%)	25.9%	37.5%	(2.0%)

Cash flow statement

€ in millions, year end Dec	FY11	FY12	FY13	FY14E	FY15E
Net Income (Reported)	708	583	97	622	991
Depreciation & amortization	-	-	-	-	-
Other items	(547)	(1,209)	(157)	(947)	(307)
Cash flow from operations	1,137	(354)	72	1,583	1,183
Capex	(597)	(461)	(407)	(260)	(200)
Other	(44)	27	8	9	0
Free cash flow	540	(815)	(335)	1,323	983
Equity raised	0	0	0	(367)	(589)
Equity repaid	-	-	-	-	-
Debt Raised	-	-	-	-	-
Debt repaid	(109)	290	(405)	(2,760)	(1,000)
Dividends paid	(1,536)	(755)	(71)	(1,383)	(478)
Other	546	0	(1)	0	0
Beginning cash	7,592	9,236	8,952	7,633	5,451
Ending cash	1,957	3,504	3,676	2,476	1,393
DPS	0.40	0.20	0.27	0.12	0.13

Balance sheet

€ in millions, year end Dec	FY11	FY12	FY13	FY14E	FY15E
Cash and cash equivalents	1,957	3,504	3,676	2,476	1,393
Accounts Receivable	7,181	5,551	2,901	3,126	3,238
Inventories	2,330	1,538	804	1,076	1,091
Others	5,475	4,078	6,849	1,948	1,971
Current assets	25,455	20,661	19,143	13,731	12,797
LT investments	708	747	806	847	847
Net fixed assets	1,842	1,431	566	644	596
Total assets	36,205	29,984	25,191	20,897	19,915
Liabilities					
ST loans	1,835	552	3,411	276	276
Payables	5,532	4,394	1,842	1,961	2,013
Others	10,077	8,710	8,925	4,938	4,837
Total current liabilities	17,444	13,656	14,178	7,175	7,126
Long term debt	3,969	5,087	3,286	2,518	1,518
Other liabilities	876	2,002	1,067	2,691	2,691
Total liabilities	22,289	20,745	18,531	12,384	11,335
Shareholders' equity	11,873	7,936	6,467	8,415	8,482
BVPS	3.20	2.14	1.57	2.06	2.15

Ratio Analysis

€ in millions, year end Dec	FY11	FY12	FY13	FY14E	FY15E
EBITDA margin (Adj) (%)	6.9%	10.8%	14.2%	14.2%	12.9%
Net margin (%)	1.8%	3.8%	6.4%	8.8%	8.0%
SG&A/Sales	11.5%	11.4%	12.4%	12.3%	12.1%
R & D as a % of Revenue	13.4%	17.6%	19.0%	19.0%	18.9%
Sales growth (%)	(8.9%)	(60.2%)	(17.5%)	(0.6%)	3.5%
Attributable net profit growth (%)	(68.7%)	(17.7%)	(83.4%)	541.5%	59.2%
Net debt/EBITDA	(200.2%)	(272.1%)	(146.0%)	(311.9%)	(325.5%)
Net debt to equity	(38.1%)	(49.2%)	(39.5%)	(65.6%)	(64.1%)
Sales/assets (x)	1.0	0.5	0.5	0.5	0.6
Total Assets/Equity	2.9	3.3	3.8	3.1	2.4
ROE	5.4%	5.9%	11.3%	15.0%	12.4%
ROCE	3.7%	5.5%	8.1%	10.2%	10.3%

Source: Company reports and J.P. Morgan estimates.

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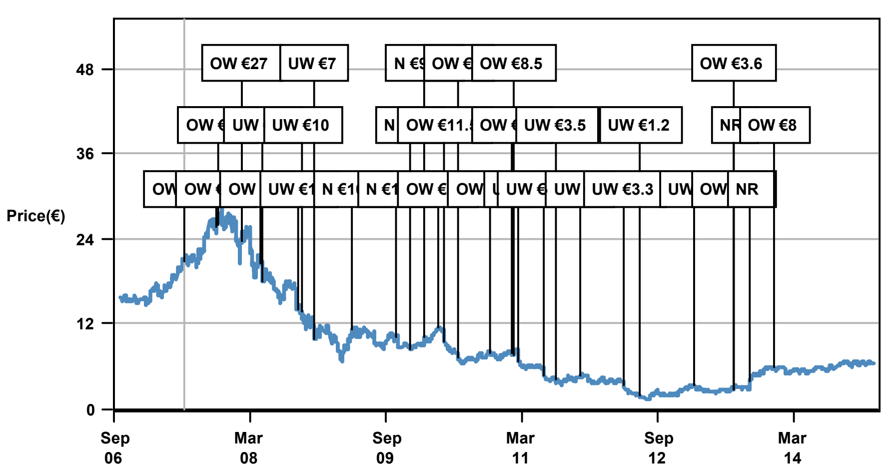
Nokia (NOK1V.HE, NOK1V FH) Price Chart



Source: Bloomberg and J.P. Morgan; price data adjusted for stock splits and dividends.
Break in coverage Jul 01, 2013 - Jul 03, 2013.

Date	Rating	Share Price (€)	Price Target (€)
13-Jun-07	OW	20.78	25.00
15-Oct-07	OW	25.63	29.00
22-Oct-07	OW	26.04	30.00
25-Jan-08	OW	23.74	27.00
13-Apr-08	OW	20.58	24.00
18-Apr-08	UW	18.12	14.00
07-Sep-08	UW	14.20	11.00
25-Sep-08	UW	13.90	10.00
17-Nov-08	UW	9.96	7.00
17-Apr-09	N	11.42	10.60
12-Oct-09	N	10.15	10.30
04-Dec-09	N	8.53	8.70
29-Jan-10	N	10.14	9.91
26-Mar-10	OW	11.53	14.00
23-Apr-10	OW	9.49	11.50
17-Jun-10	OW	7.22	9.00
22-Oct-10	OW	8.00	9.50
21-Jan-11	OW	7.81	10.00
28-Jan-11	OW	7.74	8.50
14-Feb-11	UW	6.63	5.00

01-Jun-11	UW	4.75	4.25
13-Jul-11	UW	4.26	3.50
21-Oct-11	UW	4.71	4.00
11-Apr-12	UW	3.27	3.30
21-Jun-12	UW	1.96	1.20
23-Jan-13	UW	3.49	2.00
01-Jul-13	OW	2.85	3.60
01-Jul-13	NR	2.85	--
03-Jul-13	OW	2.98	3.60
03-Sep-13	NR	3.97	--
06-Dec-13	OW	5.91	8.00

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